Attachment A: Pre-CERCLA Screening Checklist/Decision Form

This form is used in conjunction with a site map and any additional information required by the EPA Region to document completion of a Pre-CERCLA Screening (PCS). The form includes a decision on whether a site should be added to the Superfund program's active site inventory for further investigation. Select from available dropdown values for fields marked with an asterisk *.

Region: 8 **State/Territory:** CO **Tribe:** _____ _____

Click here for the EPA Tribe Entity Mapping spreadsheet. **EPA ID No. (If Available)**

Site Name: Vasquez Boulevard / Interstate 70 Superfund Site - Brighton Blvd

Other Site Name(s): National Western Center Redevelopment Project

Site Location: National Western Complex near Brighton Boulevard and 47th Avenue (Street)

1	Denver	Denver	CO	80216 +
Congressional District	(City)	(County)	(State / Terr)	(Zip+4)

If no street address is available: _____ (Township-Range) _____ (Section)

Checklist Preparer:

Alex Hedgepath - Environmental Protection Specialist I (Name / Title) — 05/01/2019 (Date)

CDPHE - HMWMD (Organization) — (303) 692-6390 (Phone)

4300 Cherry Creek South Drive (Street) — alex.hedgepath@state.co.us (Email)

Denver	Denver	CO	80246 +
(City)	(County)	(State / Terr)	(Zip+4)

Site Contact Info/Mailing Address: _____

CERCLA 105d Petition for Preliminary Assessment? No — If Yes, Petition Date (mm/dd/yyyy): _____

RCRA Subtitle C Site Status: Is site in RCRAInfo? No — If Yes, RCRAInfo Handler ID #: _____

Ownership Type*: County Owned — Additional RCRAInfo ID #(s): _____

Site Type*: Other — State ID #(s): _____

Site Sub-Type*: Multiple properties and potential sources — Other ID #(s): _____

Federal Facility? No — Federal Facility Owner*: (Make selection)

Formerly Used Defense Site (FUDS)? No — Federal Facility Operator*: (Make selection)

Federal Facility Docket? No — If Yes, FF Docket Listing Date (mm/dd/yyyy): _____

Federal Facility Docket Reporting Mechanism*: (Make selection)

Native American Interest? No — If Yes, list Tribe: _____

Additional Tribe (s): _____

Attachment A: Pre-CERCLA Screening Checklist/Decision Form

Site Description

Use this section to briefly describe site background and conditions if known or (easily) available, such as: operational history; physical setting and land use; site surface description, soils, geology and hydrogeology; source and waste characteristics; hazardous substances/contaminants of concern; historical releases, previous investigations and cleanup activities; previous regulatory actions, including permitting and enforcement actions; institutional controls; and community interest.

Insert text here:

Please refer to the attached Appendix 1.

Geospatial Information

Latitude: + 39.781474 (Decimal Degree North (e.g., +38.859156))

Longitude: - 104.967343 (Decimal Degree West (e.g., -77.036783))

Provide 4 significant digits at a minimum, more if your collection method generates them.

Except for certain territories in the Pacific Ocean, all sites in U.S. states and territories are located within the northern and western hemispheres and will have a positive latitude sign and negative longitude sign. The coordinate signs should be changed as necessary for sites in the southern and/or eastern hemispheres.

Point Description: Select the option below that best represents the site point for future reference and to distinguish it from any nearby sites.

- ☐ Geocoded (address-matched) Site Address
- ☐ Site Entrance (approximate center of curb-cut)
- ☐ Approximate Center of Site
- ☒ Other Distinguishing Site Feature (briefly describe below):

Suspected Source area

Point Collection Method: Check the method used to collect the coordinates above and enter the date of collection.

- ☒ Online Map Interpolation
- ☐ GPS (handheld, smartphone, other device or technology with accuracy range < 25 meters)
- ☐ GPS Other (accuracy range is ≥ 25 meters or unspecified)
- ☐ Address Matching: Urban
- ☐ Address Matching: Rural
- ☐ Other Method: _____

Collection Date (mm/dd/yyyy): 04/18/2019

POINT-SELECTION CONSIDERATIONS

- Often the best point is a feature associated with the environmental release or that identifies the site visually.
- Use the curb cut of the entrance to the site if there is a clear primary entrance and it is a good identifier for the overall location.
- The approximate center of the site (a guess at the centroid) is useful for large-area sites or where there are no appropriate distinguishing features.
- Use the geocoded address if that is the only or best option available, but if possible use something more representative for sites larger than 50 acres.

Attachment A: Pre-CERCLA Screening Checklist/Decision Form

Complete this checklist to help determine if a site should be added to the Superfund Active site inventory. See Section 3.6 of the PCS guidance for additional information.	YES	NO	Unknown
1. An initial search for the site in EPA's Superfund active, archive and non-site inventories should be performed prior to starting a PCS. Is this a new site that does not already exist in these site inventories?	☐	☒	☐
2. Is there evidence of an actual release or a potential to release?	☒	☐	☐
3. Are there possible targets that could be impacted by a release of contamination at the site?	☒	☐	☐
4. Is there documentation indicating that a target has been exposed to a hazardous substance released from the site?	☐	☒	☐
5. Is the release of a naturally occurring substance in its unaltered form, or is it altered solely through naturally occurring processes or phenomena, from a location where it is naturally found?	☐	☒	☐
6. Is the release from products which are part of the structure of, and result in exposure within, residential buildings or business or community structures?	☐	☒	☐
7. If there has been a release into a public or private drinking water supply, is it due to deterioration of the system through ordinary use?	☐	☒	☐
8. Are the hazardous substances possibly released at the site, or is the release itself, excluded from being addressed under CERCLA?	☐	☒	☐
9. Is the site being addressed under RCRA corrective action or by the Nuclear Regulatory Commission?	☐	☒	☐
10. Is another federal, state, tribe or local government environmental cleanup program other than site assessment actively involved with the site (e.g., state voluntary cleanup program)?	☐	☒	☐
11. Is there sufficient documentation or evidence that demonstrates there is no likelihood of a significant release that could cause adverse environmental or human health impacts?	☐	☒	☐
12. Are there other site-specific situations or factors that warrant further CERCLA remedial/integrated assessment or response?	☐	☐	☒

Attachment A: Pre-CERCLA Screening Checklist/Decision Form

Preparer's Recommendation: ☒ **Add** site to the Superfund active site inventory.

☐ **Do not add** site to the Superfund active site inventory.

Please explain recommendation below:

PCS Summary and Decision Rationale

Use this section to summarize PCS findings and support the decision to add or not add the site to the Superfund active site inventory for further investigation. Information does not need to be specific but, where known, can include key factors such as source and waste characteristics (e.g., drums, contaminated soil); evidence of release or potential release; threatened targets (e.g., drinking water wells); key sampling results (if available); CERCLA eligibility; involvement of other cleanup programs; and other supporting factors.

Insert text here:
Please refer to the attached Appendix 1.

Site Assessor: Alex Hedgepath Digitally signed by Alex Hedgepath Date: 2019.07.01 15:06:54 -06'00' 07/01/2019
Print Name/Signature **Date**

EPA Regional Review and Pre-CERCLA Screening Decision

Add site to the Superfund active site inventory for completion of a:

- ☐ Standard/full preliminary assessment (PA)
- ☐ Abbreviated preliminary assessment (APA)
- ☐ Combined preliminary assessment/site inspection (PA/SI)
- ☐ Integrated removal assessment and preliminary assessment
- ☐ Integrated removal assessment and combined PA/SI
- ☒ Other: Preliminary Assessment w/ limited sampling

Do not add site to the Superfund active site inventory. Site is:

- ☐ Not a valid site or incident
- ☐ Being addressed by EPA's removal program
- ☐ Being addressed by a state cleanup program
- ☐ Being addressed by a tribal cleanup program
- ☐ Being addressed under the Resource Conservation and Recovery Act
- ☐ Being addressed by the Nuclear Regulatory Commission
- ☐ Other: _____

EPA Regional Reviewer: DAVID FRONCZAK Digitally signed by DAVID FRONCZAK Date: 2019.07.02 09:08:26 -06'00' 07/02/2019
Print Name/Signature **Date**

Appendix 1 - Pre-CERCLA Screening
VB/I-70, Brighton Blvd., Denver
July 2019

Introduction

The Vasquez Blvd./I-70 (VB/I-70) Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) site is an established Superfund Site since its NPL listing in 1999. The Site features three operable units (OUs) to remediate arsenic and lead in site soils and arsenic in the site's groundwater. A limited phase II Environmental Site Assessment (ESA) and Subsurface Investigation have both been completed for chlorinated solvents in the northeast quadrant of VB/I-70 OU1 area, along Brighton Blvd. The limited Phase II conducted by Terracon Consultants, Inc. (Terracon) in 2016, included sampling of soil, soil vapor, and groundwater[1]. The Subsurface Investigation conducted by Pinyon Environmental, Inc. (Pinyon) in 2015, included sampling of soil vapor and groundwater[2]. The analytical results from the Terracon groundwater samples showed that PCE, TCE, and DCE were all present in the vicinity of the Site. Only PCE was detected above the Environmental Protection Agency's (EPA) Maximum Contamination Level (MCL). The purpose of this Pre-CERCLA screening is to determine if a Preliminary Assessment (PA) or other further investigation is warranted into the contamination of PCE at the Brighton Blvd. site. The CDPHE performed a site reconnaissance on April 17, 2019, to review current land uses and record any site changes since the completion of the previous investigations.

The Site is located to the northwest of the Brighton Blvd. and I-70 intersection in Denver; approximately 2,600 feet east of the South Platte River (Figure 1). The majority of the site is used as dirt parking lots, stockyards, commercial buildings, and infrastructure (including railways and roads). The Site has low topographic relief and dips to the northwest. Commercial buildings are also present throughout the site. The highest concentrations of PCE were discovered near 39.781474 longitude and -104.967343 latitude, which is near the intersection of Brighton Blvd. and East 46th Ave. The site is at an elevation of approximately 5,190.

During the site reconnaissance, heavy roadway construction was noted on Brighton Blvd. from 47th Ave. to Race Ct. According to information collected during Terracon's Phase II ESA, potential sources of PCE in the area include: a dry cleaner, multiple auto repair shops, and a filling station.

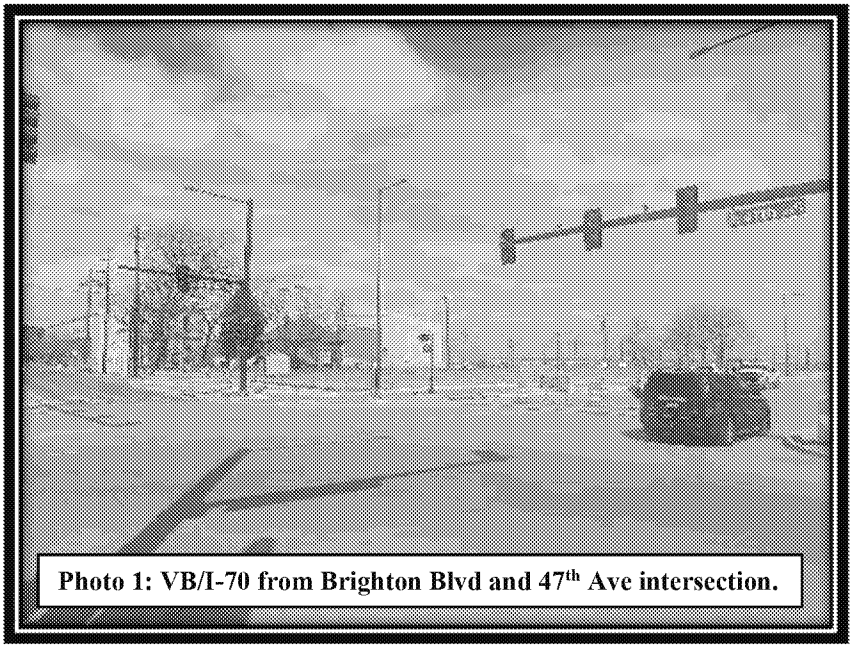


Photo 1: VB/I-70 from Brighton Blvd and 47th Ave intersection.

Methodology

The site reconnaissance on April 17, 2019, performed by the CDPHE, included a perimeter survey of the area that was sampled by Terracon and the residential neighborhood to the east of Brighton Blvd. The

Site area was active with roadway construction, maintenance to parking lots, and use of commercial and industrial buildings. No environmental issues were observed at the Site.

CDPHE reviewed all environmental databases for neighboring sites within several blocks of the PCE groundwater plume, including: EPA's EnviroMapper, EnviroFacts, and Facility Registry Service (FSR) websites. Databases reviewed include: CERCLIS, RCRA, and VCRA. In addition to the review of databases, Terracon's Phase II ESA and Pinyon's Subsurface Investigation reports were reviewed. Terracon's Phase II ESA included fifteen groundwater and eight soil vapor samples analyzed for select Volatile Organic Compounds (VOCs) on the west side of Brighton Blvd. Pinyon's subsurface investigation included three groundwater and four soil vapor samples analyzed for select VOCs near the Brighton Blvd. and 47th Ave. intersection.

Pathway Analysis

Surface Water

The site is located approximately 2,600' east of the South Platte River. As shown on Figure 1, the South Platte River bends to the east along the north edge of the Site. The extent of the PCE plume reaches to within approximately 100' of the South Platte River on the north edge of the site. A USGS gauging station located in Englewood (#06711565), approximately 10.5-miles upstream of the site, shows the average flow rate (1999-2018) of the South Platte River to be 181 cubic feet per second (cfs)[3]. Cherry Creek also merges with the South Platte River near Denver's downtown, which is approximately 4-miles upstream of the site. The USGS Cherry Creek gauging station (#06713500) has an average flow rate (1999-2018) of 95 cfs[4]. The Cherry Creek stream flow would add to the South Platte River's stream flow at the site's probably point of entry (PPE), which is the north lateral boundary of the site. Approximately 1 mile north of the I-70 Bridge, that crosses the South Platte River, there is an artificial fork. Downstream of the fork, both the river (west fork) and drainage way (east fork) run generally parallel of each other to the northeast.

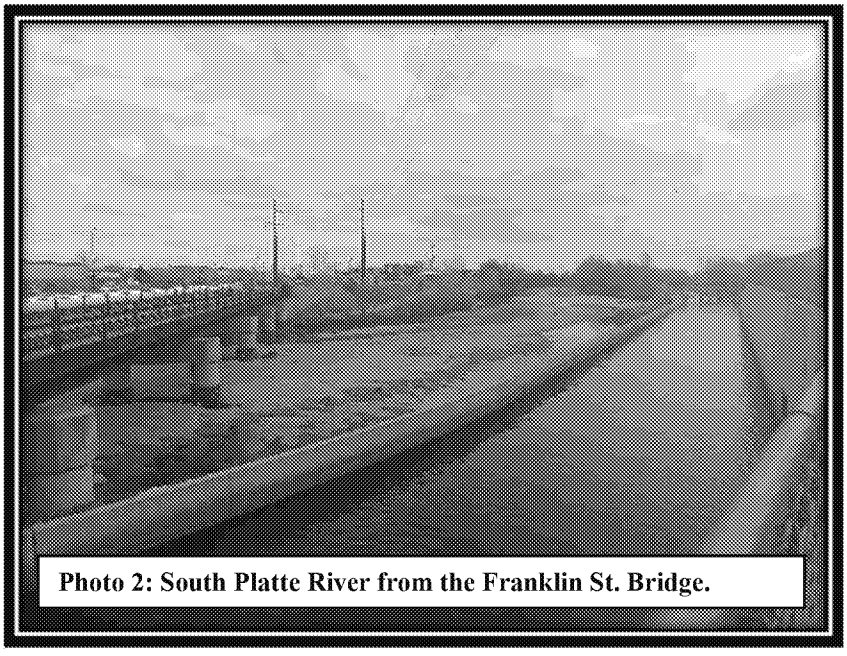


Photo 2: South Platte River from the Franklin St. Bridge.

Surface water pathway targets in both forks of the river include riverine wetlands along the majority of the 15-mile target distance limit (TDL). The nearest PPE to surface water is at the South Platte River to the north of the site, which acts as a lateral boundary for OU-1. The South Platte River is estimated to be approximately 100' from the partially inferred 5 µg/L PCE boundary. Overland flow

of surface water is unlikely due to the extensive infrastructure, distance from the source area (approximately 0.5 miles), and unknown source. Groundwater discharge into the South Platte River is the likely transport route for the surface water pathway. Although there are riparian environments throughout the majority of the 15-mile TDL, there are not significant wetland environments until approximately 12-miles into the 15-mile TDL. There are no known surface water intakes along the 15-mile TDL. Due to the lack of targets and significant flow rate of the South Platte River, it is unlikely that there are impacted surface water targets.

Groundwater

Based on drilling logs from Terracon's Phase II ESA, the subsurface in the vicinity of the site contains construction debris up to 7' below ground surface (bgs), which was noted as including: wood, glass, brick fragments, concrete, rebar, and metal. Silty sand and gravel make up the majority of the lithology, but interbedded layers of clayey sand with gravel and well graded sand with gravel are present. The bedrock was encountered between 13' and 15.5' bgs. The bedrock underlying the site consists of claystone from the Denver Formation. Groundwater flow is northwest towards the South Platte River and is generally encountered between 6' and 32' bgs[5].

Groundwater samples collected during Terracon's Phase II ESA show detections of PCE ranging from 57.0 µg/L to 1.1 µg/L and are shown on Figure 2. The tail end of the plume is bounded near the South Platte River with analytical data ranging from nondetect to 3.24 µg/L, which is below the EPA's Maximum Contamination Level (MCL) of 5 µg/L. Results from Pinyon's subsurface investigation help to partially bound the PCE plume on the east edge, but do not define the boundary in the suspected source area or upgradient. There is no known analytical data upgradient of the site. The nearest building upgradient of the suspected source area is approximately 600' to the southeast, which is across I-70.

The CDPHE queried the state engineer's well database and quantified the number of "active" (meaning the wells have not been reported as abandoned) registered domestic-use wells within the 4-mile target distance limit for the groundwater pathway and recorded the following:

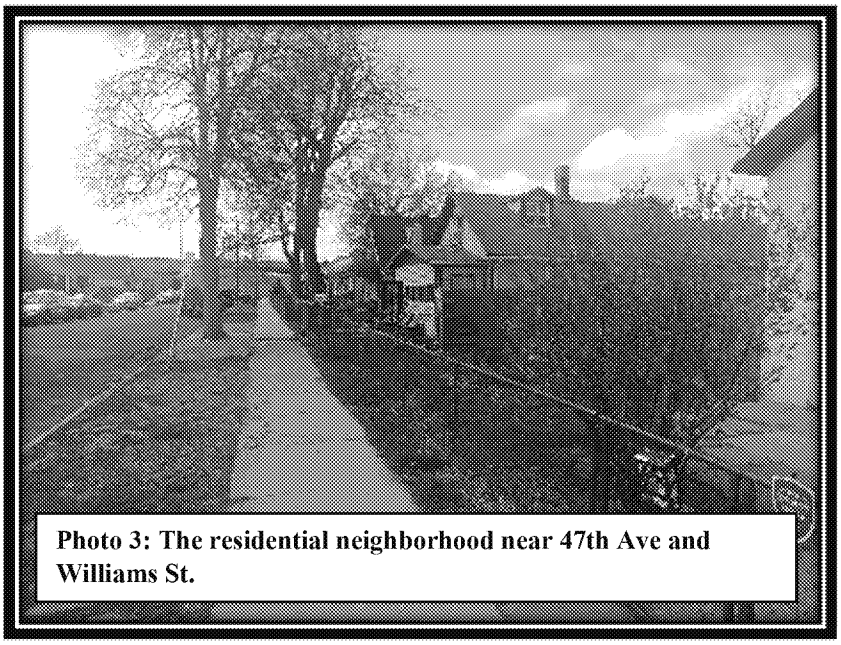


Photo 3: The residential neighborhood near 47th Ave and Williams St.

Distance (Miles)	Number of Registered "Active" Domestic-use Wells
0 – 0.25	3
0.25 – 0.5	3
0.5 – 1.0	12
1.0 – 2.0	66
2.0 – 3.0	131
3.0 – 4.0	214
0 – 4.0	429

The distribution of these wells is depicted on Figure 3. The majority of these wells are not considered legitimate targets for the groundwater pathway because they were likely taken out of service when municipal water became available. The entirety of the Brighton Blvd site is serviced by the municipal water supply of the City and County of Denver (CCOD)[6] and the South Adams County Water and Sanitation District[7] (SACWSD). The water supply from the CCOD has surface water intakes greater than 15-miles upstream of the Site[8] and the SACWSD has municipal groundwater wells greater than 4-miles downstream of the Site. In addition, SACWSD partially uses the CCOD's treated surface water supply[9]. The risk to targets through the groundwater pathway is minimal.

Soil Exposure and Air Pathways

The area overlying the PCE contamination plume is of limited commercial use; the majority of which is dirt parking lots and stockyards. These areas are assumed to have been reworked many times over the Site's long history. There appears to be minimum risk to worker targets due to the site history and land use.

At this time there is no known source of contamination relating the PCE plume at the site or ongoing emissions. Due to the lack of pathways and impacted targets, the air pathway is of minimum concern.

Vapor Intrusion

During Terracon and Pinyon investigations, multiple soil vapor samples detected PCE concentrations above Colorado's Air Screening Concentrations for worker action levels (175 $\mu g/m^3$). These detections ranged from 9.2 $\mu g/m^3$ to 3,146 $\mu g/m^3$. Only one sample, SV-17 from Terracon's Phase II ESA, had an estimated indoor air concentration above screening levels, based on the soil vapor

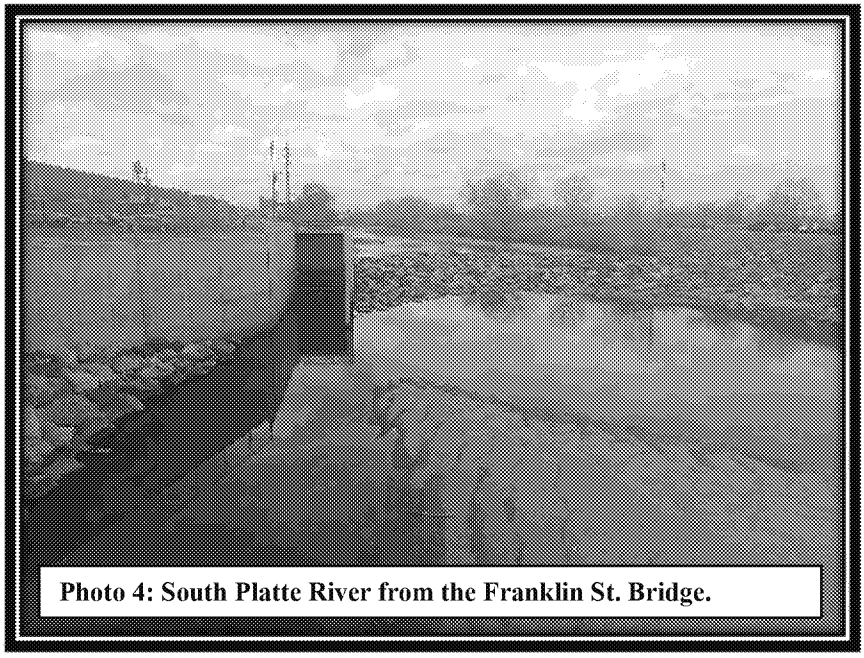


Photo 4: South Platte River from the Franklin St. Bridge.

samples. This estimate of 94.1 $\mu g/m^3$, was calculated based on an attenuation factor (1,000x) from the EPA's Vapor Intrusion Screening Level (VISL) calculator, which is below the worker action level for PCE. SV-17 is approximately 225' from the nearest building and is shown on Figure 4. This estimate and attenuation factor are based on conservative modeling data from "ideal" conditions, which may not exist at the site. There is no soil vapor analytical data from commercial buildings near the suspected source area. Known groundwater concentrations near the suspected source area could result in estimated indoor air concentrations of 41.2 $\mu g/m^3$, which is below worker scenario remedial goals of 47.2 $\mu g/m^3$. It is unlikely that targets in a worker scenario are being impacted; additional investigation could confirm this.

Soil vapor samples collected during Pinyon's subsurface investigation from two wells along Brighton Blvd. had detections of PCE in both sampling intervals (5' and 10' bgs). The highest detection (220 $\mu g/m^3$) was at the 5' bgs interval in a soil vapor well near the intersection of Brighton Blvd and 46th Ave. Using the EPA's VISL calculator, this could result in an estimated indoor air concentration of 6.6 $\mu g/m^3$ (using a 0.03 attenuation factor). This soil vapor sample is approximately 20' west of the nearest residential property and represents a conservative risk in the residential scenario. It is unlikely that targets in a residential scenario are being impacted; additional investigation could confirm this.

Enclosures

- Figure 1: Site Location Map
- Figure 2: PCE Groundwater Contamination Plume Map
- Figure 3: Registered Domestic Wells
- Figure 4: PCE Soil Vapor Contamination
- EPA EnviroMapper Map
- Sheets from Terracon Phase II ESA
- Sheets from Pinyon Subsurface Investigation
- Pre-CERCLIS Screening Form
- Sheets from CCOD's Assessor's Office

References

[1] Terracon. March 22, 2016. Limited Phase II Environmental Site Assessment. National Western Center Redevelopment Project. Denver, Colorado. Revision 3.

[2] Pinyon. November 5, 2015. Subsurface Investigation. National Western Center Redevelopment. Denver, Colorado.

[3] https://waterdata.usgs.gov/nwis/annual?referred_module=sw&site_no=06711565&por_06711565_17504=344626,00060,17504,1983,2019&start_dt=1999&end_dt=2019&year_type=W&format=html_table&date_format=YYYY-MM-DD&rdb_compression=file&submitted_form=parameter_selection_list

[4] https://waterdata.usgs.gov/nwis/measurements?agency_code=USGS&site_no=06713500

[5] Terracon. March 22, 2016. Limited Phase II Environmental Site Assessment. National Western Center Redevelopment Project. Denver, Colorado. Revision 3.

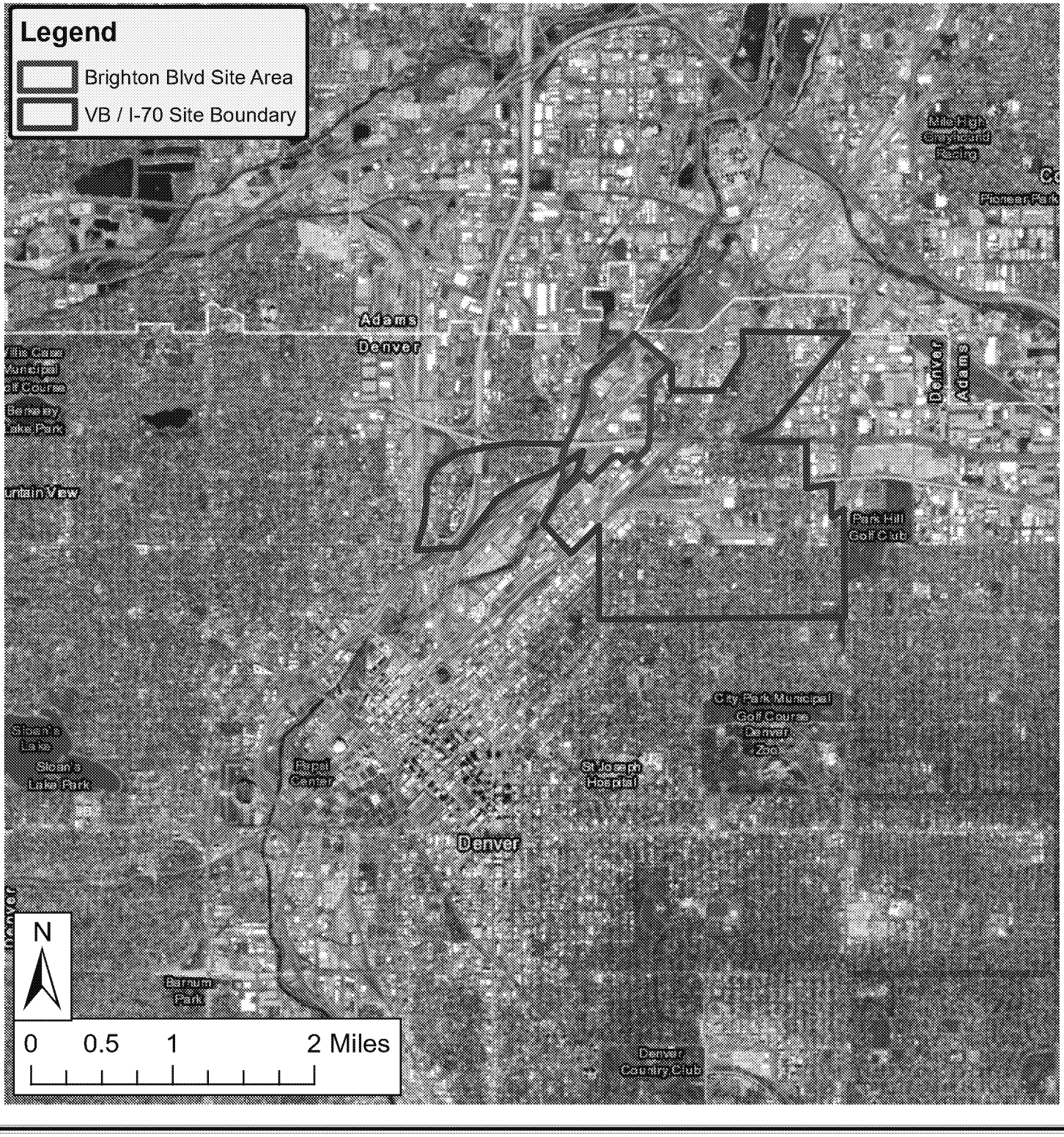
[6] https://www.denverwater.org/sites/default/files/2017-05/Service%20Area%20Map%20-%20Municipalities.pdf

[7] http://www.sacwsd.org/DocumentCenter/View/160/Service-Area-Map?bidId=

[8] https://www.denverwater.org/sites/default/files/water-quality-report-2018.pdf

[9] https://www.sacwsd.org/DocumentCenter/View/1218/Water-Quality-Report-2018-Final

VB / I-70. Brighton Blvd., Pre-CERCLA Screening



COLORADO
Hazardous Materials
& Waste Management Division
Department of Public Health & Environment

VB / I-70
Brighton Blvd., Denver
Figure 1: Site Location Map
May, 2019

Figure 2: PCE Groundwater Contamination Plume
VB/I-70 Pre-CERCLA Screening
Denver, Colorado

MW-13
PCE: 2.37 µg/L
TCE: 1.08 µg/L
cis-1,2-DCE: 9.86 µg/L

MW-11
PCE: 3.24 µg/L
TCE: <1.00 µg/L
cis-1,2-DCE: <1.00 µg/L

MW-12
PCE: **38.90 µg/L**
TCE: 1.15 µg/L
cis-1,2-DCE: <1.00 µg/L

MW-10
PCE: **30.70 µg/L**
TCE: <1.00 µg/L
cis-1,2-DCE: <1.00 µg/L

MW-09
PCE: 1.14 µg/L
TCE: <1.00 µg/L
cis-1,2-DCE: <1.00 µg/L

MW-08
PCE: **57.00 µg/L**
TCE: 1.43 µg/L
cis-1,2-DCE: <1.00 µg/L

MW-05
PCE: 1.26 µg/L
TCE: <1.00 µg/L
cis-1,2-DCE: <1.00 µg/L

MW-7
PCE: 1.45 µg/L
TCE: <1.00 µg/L
cis-1,2-DCE: <1.00 µg/L

MW-01
PCE: <1.00 µg/L
TCE: <1.00 µg/L
cis-1,2-DCE: <1.00 µg/L

MW-6
PCE: **55.30 µg/L**
TCE: <1.00 µg/L
cis-1,2-DCE: <1.00 µg/L

MW-15
PCE: **44.40 µg/L**
TCE: <1.00 µg/L
cis-1,2-DCE: <1.00 µg/L

MW-16
PCE: **55.90 µg/L**
TCE: <1.00 µg/L
cis-1,2-DCE: <1.00 µg/L

MW-04
PCE: 1.17 µg/L
TCE: <1.00 µg/L
cis-1,2-DCE: <1.00 µg/L

MW-3
PCE: **31.40 µg/L**
TCE: <1.00 µg/L
cis-1,2-DCE: <1.00 µg/L

MW-02
PCE: <1.00 µg/L
TCE: <1.00 µg/L
cis-1,2-DCE: <1.00 µg/L

5136 5137 5138 5139 5140 5141 5142 5143 5144 5145 5146 5147 5149 5150 5151 5152 5153 5154

South Platte River

Legend

- Monitoring Wells
- PCE 50 µg/L
- PCE 40 µg/L
- PCE 30 µg/L
- PCE 20 µg/L
- PCE 10 µg/L
- PCE 5 µg/L
- Groundwater Contour
- Historical Buildings Areas of Concern
- Historical Fill Area
- Primary Study Area Boundary
- Secondary Study Area Boundary

PCE: Tetrachloroethylene
TCE: Trichloroethylene
cis-1,2 Dichloroethylene
µg/L: micrograms per liter
Bold: Exceeds Regulatory Standard

Colorado Department of Public Health and Environment (CDPHE), Colorado Groundwater Quality Standard (CGWQS) (January, 2013).

PCE: 5 µg/L
TCE: 5 µg/L
cis-1,2-DCE: 14 µg/L

0 250 500 1,000 Feet

Coordinate System: State Plane Colorado Central FIPS 0502
Projection: Lambert Conformal Conic
Datum: North American 1983 HARN

N

Project No.:	25157010
Drawn By:	MRH
Checked By:	MEW
Date:	July 2015

Terracon
Consulting Engineers & Scientists
10625 FRONTAGE RD., STE 3 WHEAT RIDGE, CO
PH. (303) 423-3300 terracon.com

PCE CONSTITUENTS IN GROUNDWATER MAP

NATIONAL WESTERN CENTER REDEVELOPMENT PROJECT
DENVER, COLORADO

EXHIBIT **5A**

Figure 4: PCE Soil Vapor Contamination
VB/I-70 Pre-CERCLA Screening
Denver, Colorado

SV-17 S
Benzene: <10.0 µg/m³
Ethylbenzene: <10.0 µg/m³
Tetrachloroethene: **3,146 µg/m³**
Toluene: <10.0 µg/m³
Total Xylenes: <10.0 µg/m³
Methane: <0.007 %
Ethane: <0.004 %
Propane: <0.002 %
TVPH: 3.15 mg/m³

SV-19 D
Benzene: <10.0 µg/m³
Ethylbenzene: <10.0 µg/m³
Tetrachloroethene: **835 µg/m³**
Toluene: <10.0 µg/m³
Total Xylenes: <10.0 µg/m³
Methane: NA
Ethane: NA
Propane: NA
TVPH: <1.0 mg/m³

SV-08 S
Benzene: <10.0 µg/m³
Ethylbenzene: <10.0 µg/m³
Tetrachloroethene: 161 µg/m³
Toluene: <10.0 µg/m³
Total Xylenes: <10.0 µg/m³
Methane: <0.007 %
Ethane: <0.004 %
Propane: <0.002 %
TVPH: <1.0 mg/m³

SV-13 S
Benzene: <10.0 µg/m³
Ethylbenzene: <10.0 µg/m³
Tetrachloroethene: 42.2 µg/m³
Toluene: <10.0 µg/m³
Total Xylenes: <10.0 µg/m³
Methane: NA
Ethane: NA
Propane: NA
TVPH: <1.0 mg/m³

SV-12 S
Benzene: **29.2 µg/m³**
Ethylbenzene: 26.6 µg/m³
Tetrachloroethene: 20.2 µg/m³
Toluene: 55.2 µg/m³
Total Xylenes: 637 µg/m³
Methane: **16.3 %**
Ethane: <0.004 %
Propane: <0.002 %
TVPH: **190 mg/m³**

MW-06
Benzene: <10.0 µg/m³
Ethylbenzene: <10.0 µg/m³
Tetrachloroethene: 54.8 µg/m³
Toluene: <10.0 µg/m³
Total Xylenes: <10.0 µg/m³
Methane: <0.007 %
Ethane: <0.004 %
Propane: <0.002 %
TVPH: 81.9 mg/m³

SV-02 S
Benzene: <10.0 µg/m³
Ethylbenzene: <10.0 µg/m³
Tetrachloroethene: <10.0 µg/m³
Toluene: <10.0 µg/m³
Total Xylenes: <10.0 µg/m³
Methane: **14.5 %**
Ethane: 1.27 %
Propane: 0.016 %
TVPH: <1.0 mg/m³

SV-06 S
Benzene: <10.0 µg/m³
Ethylbenzene: <10.0 µg/m³
Tetrachloroethene: 180 µg/m³
Toluene: <10.0 µg/m³
Total Xylenes: <10.0 µg/m³
Methane: NA
Ethane: NA
Propane: NA
TVPH: <1.0 mg/m³

Legend

- Soil Vapor
- Nested Soil Vapor
- Monitoring Wells
- Historical Buildings Areas of Concern
- Historical Fill Area
- Primary Study Area Boundary
- Secondary Study Area Boundary

VOC: Volatile Organic Compund
TVPH: Total Volatile Petroleum Hydrocarbons
µg/m³: micrograms per cubic meter
mg/m³: milligrams per cubic meter
S: Shallow 5 feet vapor point
D: Deep 10 feet vapor point
NA: Not Analyzed
Bold: Exceeds Regulatory Standard

Colorado Department of Public Health and Environment (CDPHE), Calculated Indoor Air Screening Concentration Worker Remediation Goal (March, 2012).

Benzene: 16 µg/m³
Ethylbenzene: 49 µg/m³
Tetrachloroethylene: 472 µg/m³
Toluene: 220,000 µg/m³
Total Xylenes µg/m³
Methane <5%
TVPH: 130 mg/m³ by volume of air

0 250 500 1,000 Feet

Coordinate System: State Plane Colorado Central FIPS 0502
Projection: Lambert Conformal Conic
Datum: North American 1983 HARN

N

Project No.:	25157010
Drawn By:	MRH
Checked By:	MEW
Date:	July 2015

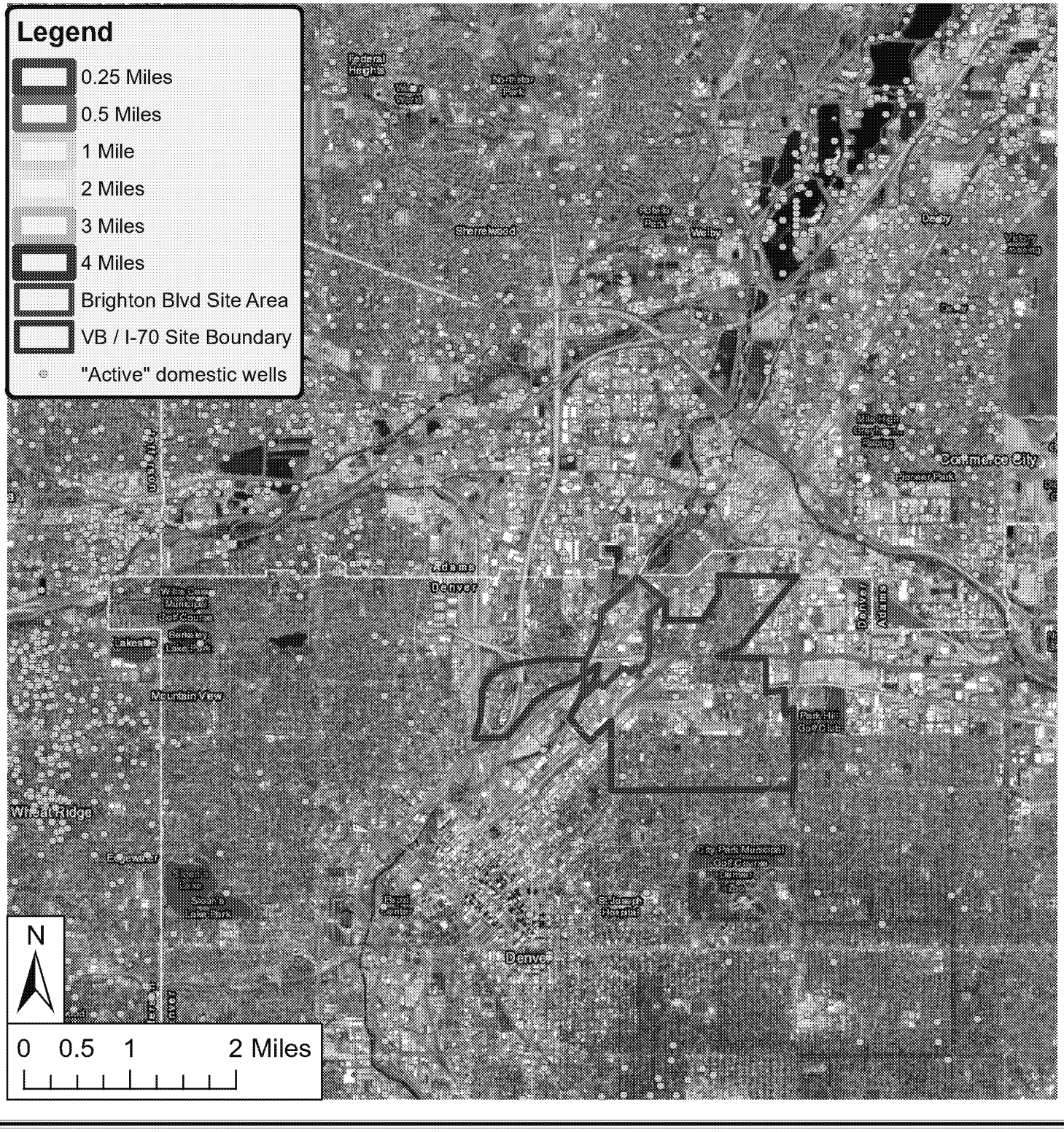
Terracon
Consulting Engineers & Scientists
10625 FRONTAGE RD., STE 3 WHEAT RIDGE, CO
PH. (303) 423-3300 terracon.com

VOC, ALKANE, AND, TVPH CONSTITUENTS IN SOIL VAPOR

NATIONAL WESTERN CENTER REDEVELOPMENT PROJECT
DENVER, COLORADO

EXHIBIT
6

VB / I-70. Brighton Blvd., Pre-CERCLA Screening



COLORADO
Hazardous Materials
& Waste Management Division
Department of Public Health & Environment

VB / I-70
Brighton Blvd., Denver
Figure 3: Registered Domestic Wells
May, 2019

EnviroMapper

Home | Help

Search Place: 81224, CO

Basemap Tools More Data Search Envirofacts Find address or place

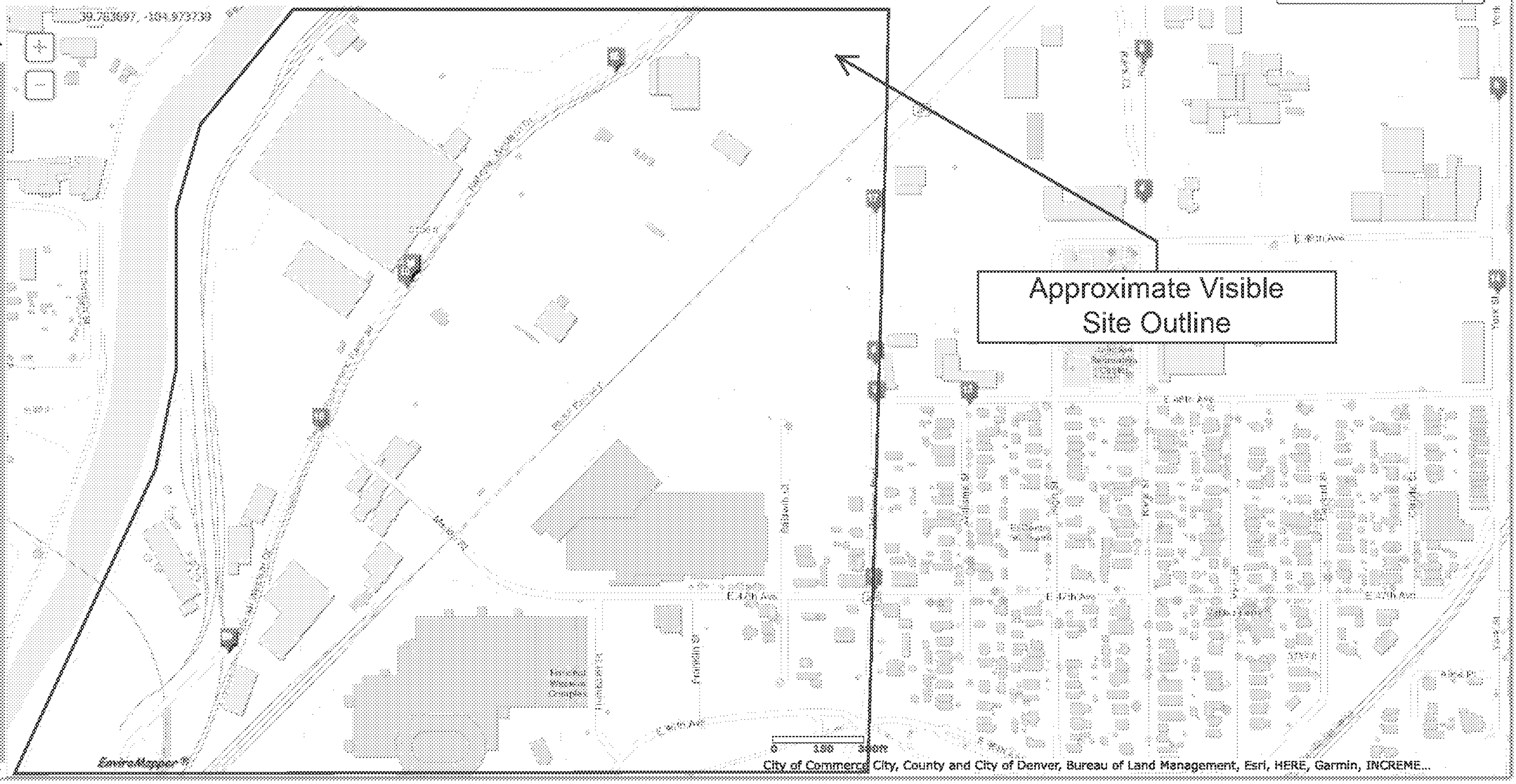
Back

Program Systems>>AIRS,RCRAINFO,NPDES

Results 1 - 20 of 42

Next 20

1. 4701 Brighton Blvd Demolition
2. Bar S Foods Co
3. Basalite Concrete Products
4. Basalite Concrete Products
5. Bioenergy Of Colorado II, Llc
6. Brannan Sand & Gravel
7. Central 70 Mcdonald Farms Ent Project
8. Colorado Serum Co
9. Crystal Packaging, Inc. - 5185 National
10. Denver Fiberglass Inc
11. Denver Metro Recycling
12. Dienamic Impressions
13. Dps Ne Bus Facility
14. Eaton Metal Products Co
15. Environmental Services Management
16. Environmental Trans Services
17. J & B Used Parts Co
18. Le Mouton Office Park & Warehouse
19. Mcdonald Farms - Storage Silos
20. Mcdonald Farms Enterprises Inc (Mfei) Wwtf



EnviroMapper

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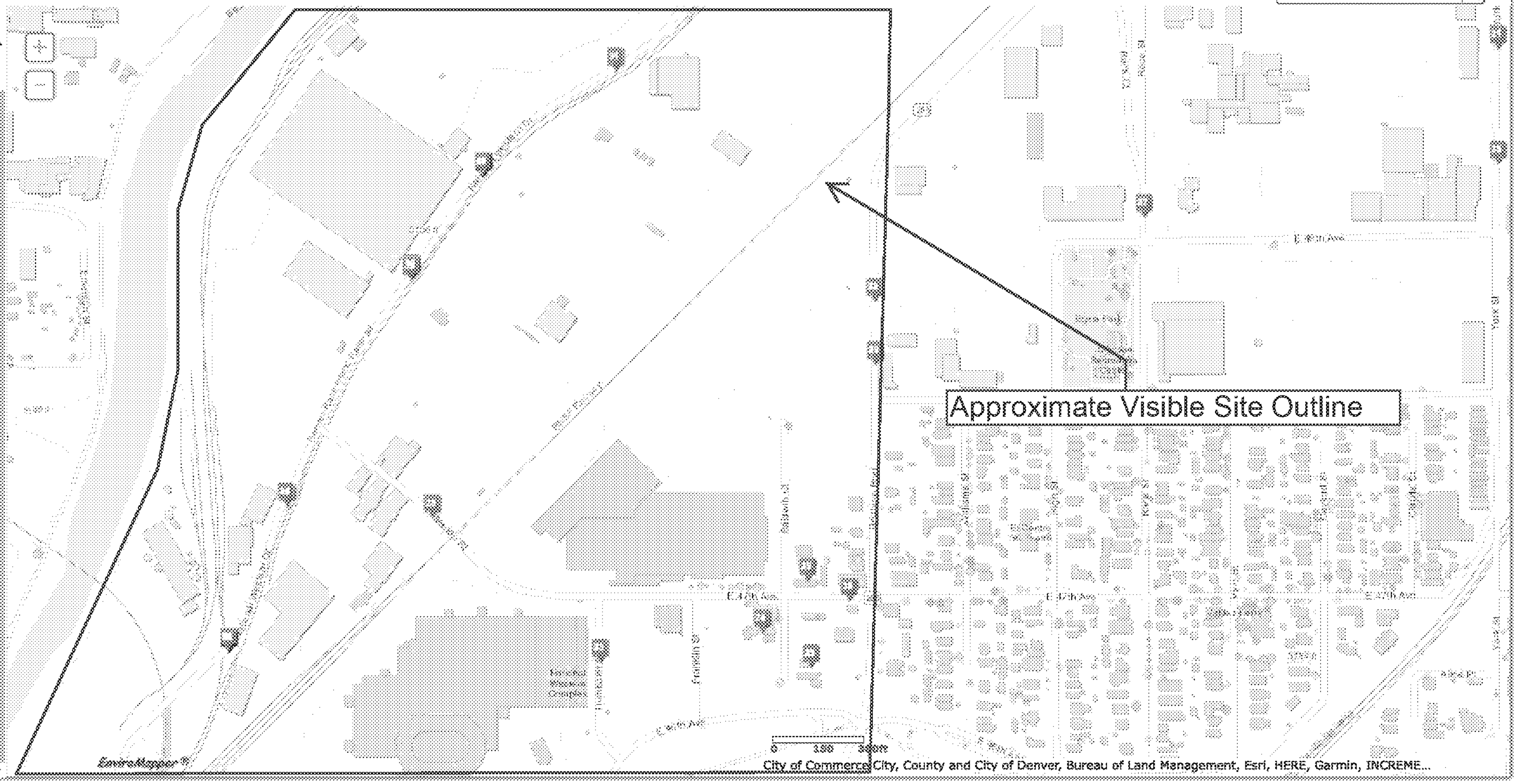
Search Place: 81224, CO

Basemap Tools More Data Search Envirofacts Find address or place

Systems>>AIRS,RCRAINFO,NPDES
Results 21 - 40 of 42
Previous 20 Next 20

21 ⊞ Morgan Corporation
22 ⊞ National By-Products Inc
23 ⊞ National Western Center Area 1 Demolition
24 ⊞ National Western Center Area 2 Demolition
25 ⊞ National Western Center Area 3 Demolition
26 ⊞ National Western Center T2 02 Area 1 Demolition
27 ⊞ National Western Center T2 02 Area 2 Demolition
28 ⊞ National Western Center T2 03 Area 1 Demolition
29 ⊞ National Western Center T2 03 Area 3 Demolition
30 ⊞ National Western Demolition Package 4 Area 1
31 ⊞ National Western Demolition Package 4 Area 2
32 ⊞ National Western Demolition Package 4 Area 3
33 ⊞ Natl Western Stockshow Assn
34 ⊞ Pepcol Manufacturing Co
35 ⊞ Regional Transportation District
36 ⊞ Rs Used Oil Services Inc
37 ⊞ Rush Truck Centers Of Colorado
38 ⊞ Sej Asset Mgmt - Sej #27492
39 ⊞ Southwind Development Co Ltd
40 ⊞ Trailer Rentals



4655 N BALDWIN CT

Owner CITY & COUNTY OF DENVER
1437 BANNOCK ST
DENVER , CO 80202-5337

Schedule Number 02231-10-036-000

Legal Description ELYRIA B10 L39 TO 43 INC EXC REAR 5FT OF L40 TO 42 INC TO CITY

Property Type COMMERCIAL - MISC IMPROVEMENTS

Tax District DENV

Print Summary

Property Description

Style:	OTHER	**Building Sqr. Foot:**	0
Bedrooms:		**Baths Full/Half:**	0/0
Effective Year Built:	0000	**Basement/Finish:**	0/0
Lot Size:	14,643	**Zoned As:**	CMP-NWC

Note: Valuation zoning may be different from City's new zoning code.

Current Year

	Actual	Assessed	Exempt
Land	$219,700	$63,710	$64,930
Improvements	$4,200	$1,220	
Total	$223,900	$64,930	

Prior Year

	Actual	Assessed	Exempt
Land	$87,900	$25,490	$26,650
Improvements	$4,000	$1,160	
Total	$91,900	$26,650	

Real Estates Property Taxes for current tax year

Please click on additional information below to check for any delinquencies on this property/schedule number and for tax sale information.

Installment 1	Installment 2	Full Payment

	(Feb 28 Feb 29 In Leap Years)	(Jun 15)	(Due Apr 30)
Date Paid			
Original Tax Levy	$0.00	$0.00	$0.00
Liens/Fees	$0.00	$0.00	$0.00
Interest	$0.00	$0.00	$0.00
Paid	$0.00	$0.00	$0.00
Due	$0.00	$0.00	$0.00

Additional Information

Note: If "Y" is shown below, there is a special situation pertaining to this parcel. For additional information about this, click on the name to take you to an explanation.

Additional Assessment	N	**Prior Year Delinquency**	N
Additional Owner(s)	N	**Scheduled to be Paid by Mortgage Company**	N
Adjustments	N	**Sewer/Storm Drainage Liens**	N
Local Improvement Assessment	N	**Tax Lien Sale**	N
Maintenance District	N	**Treasurer's Deed**	N
Pending Local Improvement	N		

Real estate property taxes paid for prior tax year: **$2,055.62**

Assessed Value for the current tax year

Assessed Land	$25,490.00	**Assessed Improvements**	$1,160.00
Exemption	$26,650.00	**Total Assessed Value**	$0.00

4655 N BALDWIN CT

Owner CITY & COUNTY OF DENVER
1437 BANNOCK ST
DENVER , CO 80202-5337

Schedule Number 02231-10-036-000

Legal Description ELYRIA B10 L39 TO 43 INC EXC REAR 5FT OF L40 TO 42 INC TO CITY

Property Type COMMERCIAL - MISC IMPROVEMENTS

Tax District DENV

Additional Property Information

Zoning
Zone District: CMP-NWC , UO-2
Code Version:
Zoning Map

Neighborhood
Elyria Swansea

Subdivision
Elyria Colorado

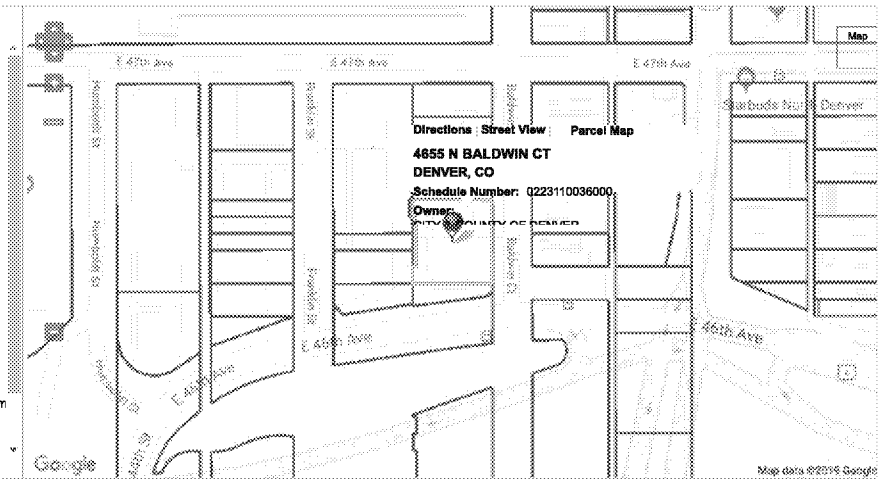
Historic Landmark District
No

Individual Historic Landmark
No

Enterprise Zone
Yes

Floodplain Designation
Click Details button for floodplain inform

Downloadable Maps
Parcel Map



Pinyon Environmental, Inc.
Corporate Headquarters
9100 West Jewell Avenue Lakewood, CO 80232
TEL 303 980 5200 FAX 303 980 0089
www.pinyon-env.com

November 5, 2015

Subsurface Investigation

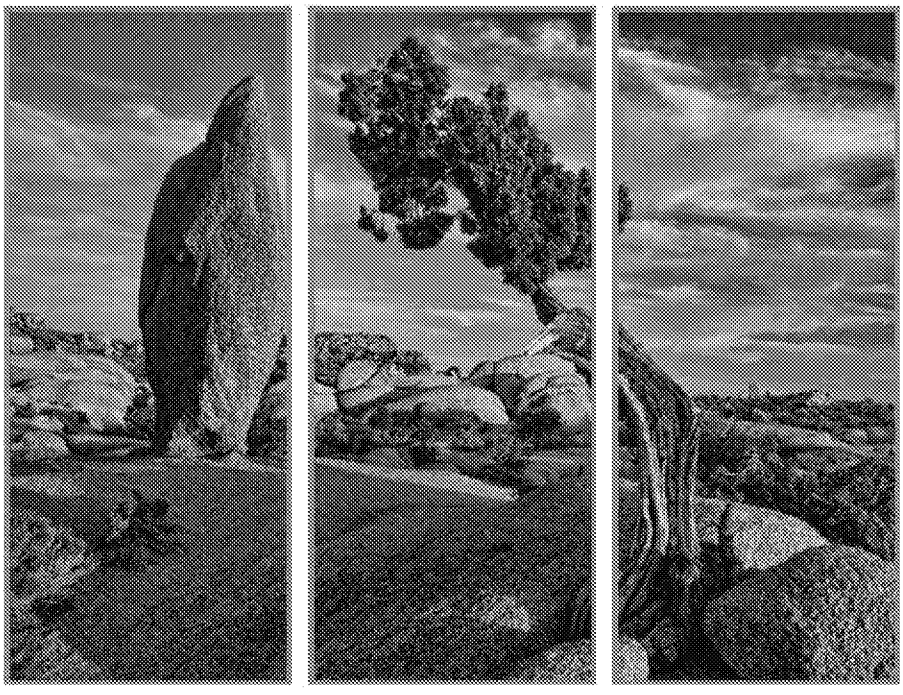
National Western Center Redevelopment
Brighton Boulevard and Interstate 70
Denver, Colorado

Prepared For:

City and County of Denver
Department of Environmental Health
300 West 14th Avenue, Department 310
Denver, Colorado 80204

Pinyon Project No.:

1/15-007-10.2002



N

Legend

- Monitoring Well Locations
- Soil Vapor Locations

0 150 300 Feet

Pinyon

MONITORING LOCATIONS

National Western Stock Show
Denver, Colorado

Site Location: Sections 14 & 23, T 3S , R 68W, 6th Principal Meridian	Drawn By: JAF	Figure: 2
Pinyon Project Number: 1/15-007-10.2002	Reviewed By: JRC	Date: 10/1/2015

Document Path: Z:\PROJECTS\2015\11500710 CCOD National Western Redevelopment\Figures\ArcMap\MXDs\Figure 2 - Monitoring Locations.mxd

Table B-1 Groundwater Analytical Results

Analyte		Groundwater Standards (µg/L)[1]	Sample ID/Sample Date		
			CDOT Well 8/27/15	MW-200 8/27/15	MW-201 8/27/15
VOCs (µg/L)	Cis-1,2-Dichlorothene	70	<1.0	<1.0	<1.0
	Tetrachloroethylene	5	**53**	**22**	3.0
	Trans-1,2-Dichloroethene	140	<1.0	<1.0	<1.0
	Trichloroethylene	5	<1.0	<1.0	<1.0
	Vinyl Chloride	2	<1.0	<1.0	<1.0
	Methylene Chloride	5.6	<5.0	5.6	7.6

Notes:
µg/L - micrograms per liter
< - Analyte not detected above the laboratory reporting limit
VOCs - Volatile Organic Compounds
Bold - Result exceeds Groundwater Standards
1 - Based on CDPHE Water Quality Control Comission Regulation No. 41 - The Basic Standards for Ground Water (CDPHE, 2014)

Table B-3 Soil Vapor Analytical Results (Chlorinated Solvent Migration Evaluation)

			Sample ID/Sample Date/Depth of Sample							
			SV200 (5') 9/14/15 Five feet bgs	SV200 (5') 9/14/15 Five feet bgs	SV200 (10') 9/14/15 10 feet bgs	SV200 (10') 9/14/15 10 feet bgs	SV201 (5') 9/14/15 Five feet bgs	SV201 (5') 9/14/15 Five feet bgs	SV201 (10') 9/14/15 10 feet bgs	SV201 (10') 9/14/15 10 feet bgs
Analyte	**Residential Remediation Goal (µg/m³)** α *	**Worker Remediation Goal (µg/m³)** α *	Unadjusted Soil Vapor Result	Attenuation Factor = 0.03 β	Unadjusted Soil Vapor Result	Attenuation Factor = 0.03 β	Unadjusted Soil Vapor Result	Attenuation Factor = 0.03 β	Unadjusted Soil Vapor Result	Attenuation Factor = 0.03 β
VC (µg/m³)	0.16	2.8	0.091	0.00273	0.11	0.0033	<0.085	<0.00255	<0.077	<0.00231
cis-1,2-DCE (µg/m³)	NV	NV	<0.26	<0.0078	<0.24	<0.0072	<0.26	<0.0078	<0.24	<0.0072
TCE (µg/m³)	0.43	3.0	1.8	0.054	0.41	0.0123	<0.36	<0.0108	<0.32	<0.0096
PCE (µg/m³)	9.36	47.2	220	6.6	9.2	0.276	25	0.75	49	1.47
trans-1,2-DCE (µg/m³)	NV	NV	<1.3	<0.039	<1.2	0.036	<1.3	<0.039	<1.2	<0.036

Notes:

< - Analyte not detected above the laboratory reporting limit

NV - Does not have a screening value

PCE – Tetrachloroethylene

TCE - Trichloroethylene

VC - Vinyl Chloride

DCE – Dichloroethylene

bgs - below ground surface

µg/m3 - microgram per liter cubed

α - Value is from the Colorado Department of Public Health and Environment (CDPHE), Hazardous Materials and Waste Management Division, Air Screening Concentration Table

** - Values use a Risk Range of 1x10-6 because there are currently no remediation activities taking place.*

β - Because gases get trapped under concrete/asphalt surfaces, the concentration below the slab is greater than would be expected for ambient or indoor air, the attenuation factor takes this into account and gives an statistically significant ambient or indoor air concentration based on soil vapor samples. The attenuation factor is from the EPA's Vapor Intrusion Database: Evaluation and Characterization of Attenuation Factors for Chlorinated Volatile Organic Compounds and Residential Buildings.

LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT

National Western Center Redevelopment Project

Denver, Colorado

Original Issue Date: July 27, 2015

Revision 1 Issue Date: November 20, 2015

Revision 2 Issue Date: December 31, 2015

Revision 3 Issue Date: March 22, 2016

Terracon Project No. 25157010

Prepared for:
City and County of Denver
Denver, Colorado

Prepared by:
Terracon Consultants, Inc.
Wheat Ridge, Colorado

Table 7
Constituents Detected in Soil Vapor
Laboratory Analyses
National Western Complex
Denver, Colorado
Terracon Project Number 25157010

		VOCs (µg/m^3)					Alkanes (%)			
Sample Name	**Sample Date**	**Benzene**	**Ethylbenzene**	**Tetrachloroethene**	**Toluene**	**Total Xylenes**	**Methane**	**Ethane**	**Propane**	**TVPH (mg/m^3)**
SV-02 S	5/14/2015	<10.0	<10.0	<10.0	<10.0	<10.0	**14.5**	1.27	0.016	<1.0
SV-06 S	5/22/2015	<10.0	<10.0	180	<10.0	<10.0	NA	NA	NA	<1.0
SV-08 S	5/14/2015	<10.0	<10.0	161	<10.0	<10.0	<0.007	<0.004	<0.002	<1.0
SV-12 S	5/21/2015	**29.2**	26.6	20.2	55.2	637	**16.3**	<0.004	<0.002	**190**
SV-13 S	5/22/2015	<10.0	<10.0	42.2	<10.0	<10.0	NA	NA	NA	<1.0
SV-17 S	5/14/2015	<10.0	<10.0	**3,146**	<10.0	<10.0	<0.007	<0.004	<0.002	3.15
SV-19 D	5/14/2015	<10.0	<10.0	**835**	<10.0	<10.0	NA	NA	NA	<1.0
MW-06	5/21/2015	<10.0	<10.0	54.8	<10.0	<10.0	<0.007	<0.004	<0.002	81.9
CDPHE Air Screening Concentration [1]		1.6	4.9	47.2	22,000	440	NE	NE	NE	NE
Calculated CDPHE Indoor Air Screening Concentration [2]		16	49	472	220,000	4,400	NE	NE	NE	NE
EPA RSLs Composite Worker Ambient Air Table [3]		1.6	4.9	47	22,000	440	NE	NE	NE	13
Calculated EPA RSLs Indoor Air Screening Concentration [3]		16	49	470	220,000	4,400	NE	NE	NE	130
USEPA action level for a combustible atmosphere [4]		NE	NE	NE	NE	NE	1%	NE	NE	NE

1) Colorado Department of Public Health and Environment (CDPHE) Air Screening Concentrations Table - Worker Remediation Goal, March 12, 2012.
2) Calculated CDPHE Indoor Air Screening Concentration from Sub-Slab Soil Vapor Data (includes a 10X attenuation factor) - Worker Remediation Goal
3) Environmental Protection Agency (EPA) Regional Screening Levels (RSLs) Composite Worker Ambient Air Table, November 2014
5) OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air, June 2015.
<: Less than the Analytical Method Reporting Limit
Bold: Exceeds Regulatory Standard
S: Shallow Vapor Point (5 ft. bgs)
D: Deep Vapor Point (10 ft. bgs)
µg/m^3: micrograms per cubic meter
mg/m^3: milligrams per cubic meter
TVPH: Total Volatile Organic Compounds
NE: Not Established

Table 8
Dissolved Metals and VOC Constituents Detected in Groundwater
National Western Complex
Denver, Colorado
Terracon Project Number 25157010

		Metals (mg/L)									VOCs (µg/L)		
Sample Name	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Selenium	Silver	Zinc	Mercury	cis-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene
MW-01	4/29/2015	0.00227	0.215	<0.00005	<0.001	<0.001	<0.001	0.000221	0.00827	<0.0002	<1.0	<1.0	<1.0
MW-02	4/29/2015	<0.0006	0.0829	<0.00005	0.00114	<0.001	0.00203	0.000261	<0.003	<0.0002	<1.0	<1.0	<1.0
MW-03	4/30/2015	**0.0127**	0.536	0.000777	0.00156	0.00304	0.00241	0.000171	0.0568	<0.0002	<1.0	**31.4**	<1.0
MW-04	4/30/2015	0.0062	0.87	0.00104	0.0027	<0.001	0.00104	0.000194	0.0477	<0.0002	<1.0	1.17	<1.0
MW-05	4/29/2015	0.00694	0.110	<0.00005	<0.001	0.00172	0.00364	0.00112	0.00536	<0.0002	<1.0	1.26	<1.0
MW-06	4/30/2015	0.00736	0.559	0.000706	0.00137	0.00221	0.00192	0.000195	0.0729	<0.0002	<1.0	**55.3**	1.29
MW-07	4/30/2015	**0.0192**	1.43	0.00355	0.00347	<0.001	0.00334	0.000166	0.15	<0.0002	<1.0	1.45	<1.0
MW-07D	4/30/2015	**0.0216**	1.73	0.00376	0.00364	<0.001	0.0037	0.000162	0.174	<0.0002	<1.0	1.61	<1.0
MW-08	5/1/2015	<0.0006	0.0786	0.0000592	0.00743	<0.001	0.00294	0.000151	0.00535	<0.0002	<1.0	**57.0**	1.43
MW-09	4/29/2015	0.000639	0.0713	<0.00005	<0.001	<0.001	0.00308	0.000388	<0.003	<0.0002	<1.0	1.14	<1.0
MW-10	4/30/2015	0.00354	0.0898	0.000108	<0.001	0.00175	0.00366	0.000137	0.00683	<0.0002	<1.0	**30.7**	<1.0
MW-11	4/29/2015	0.000976	0.0882	0.000202	<0.001	<0.001	0.00194	0.000603	0.00854	<0.0002	<1.0	3.24	<1.0
MW-12	5/4/2015	0.00149	0.0582	<0.00005	<0.001	<0.001	0.00376	0.000552	<0.003	<0.0002	<1.0	**38.9**	1.15
MW-12D	5/4/2015	0.00155	0.0549	<0.00005	<0.001	<0.001	0.00356	0.000505	<0.003	<0.0002	<1.0	**43.5**	<1.0
MW-13	5/29/2015	0.00305	0.13	<0.00005	<0.001	<0.001	<0.001	<0.00005	<0.003	<0.0002	9.86	2.37	1.08
MW-15	5/6/2015	0.00184	0.0734	<0.00005	0.00112	<0.001	0.00398	<0.00005	0.014	<0.0002	<1.0	**44.4**	<1.0
MW-16	5/1/2015	<0.0006	0.0732	<0.00005	0.0181	<0.001	0.00331	0.000145	0.0203	<0.0002	<1.0	**55.9**	<1.0
NWSS-Rinsate	5/1/2015	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0
CGS [1]		0.01	2.0	0.005	0.1	0.05	0.05	0.05	NE	0.002	14	5 *	5

1) CDPHE, (CGWQS), January 31, 2013.
<: Less than the Analytical Method Reporting Limit
Bold: Exceeds a Regulatory Standard
mg/L: milligrams per liter
µg/L: micrograms per liter
NE: Not Established
NA : Not Analyzed
5 µg/L * : CDPHE CGWQS Standard used for anticipated construction dewatering in this area.